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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/445,356	03/01/2000	NICOLAS HOCHET	VEI0318PUA	9843

22045 7590 05/13/2003

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SOUTHFIELD, MI 48075

EXAMINER
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MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

19

DATE MAILED: 05/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/445,356

Applicant(s)

HOCHET ET AL.

Examiner

Barbara J. Musser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 5, 6, and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Dubois(FR 2711573A), Yoshinori(JP07081628A) and optionally Ilzhoefer et al.(DE 4442767A1)

The admitted prior art discloses forming a composite sandwich panel by cold pressing a reinforced thermoplastic skin, a thermoplastic core, and a second reinforced thermoplastic skin in a cold mold to form a panel which is used in automobiles. The skins are preheated to a softening temperature prior to molding. After molding, a separate hinge can be added to the panel.(Specification, pages 1-2)

The admitted prior art is silent as to the molding pressure. Dubois discloses forming a thermoplastic honeycomb panel like those in the admitted prior art by molding the panel at 10-30 bar.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to mold the panel of the admitted prior art at 10-30 bar since Dubois discloses that panels like those of the admitted prior art are molded at 10-30 bar.

The admitted prior art does not disclose forming the hinge by cutting only a narrow incision through one skin and the entire core of the panel while leaving the

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second skin intact. Yoshinori discloses a method of forming an integral hinge in a thermoplastic honeycomb panel which is used in automobiles by cutting a narrow incision through one skin and the entire core of the panel while leaving the second skin intact.(Figure 3, Abstract, Oral translation) It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the separate hinge of the admitted prior art with an integral hinge formed by cutting through one skin and the entire core of the panel while leaving the second skin intact since this would reduce the cost as a separate hinge would not be required and since Yoshinori discloses forming such hinges in honeycomb panels used in automobiles like the admitted prior art does, particularly since Ilzhoefer shows it is known to form integral hinges in fiber-reinforced thermoplastic.(Abstract)

Regarding claim 2, the references do not disclose when or where the hinge is formed in the panel. One in the art reading the references as a whole would appreciate that there is no criticality in the timing of forming the hinge. Therefore, one in the art would readily appreciate that it would have been within the purview of one in the art to form the hinge after formation of the panel while still in the mold since this would reduce processing time. Only the expected results would be achieved.

Regarding claims 5 and 6, the references do not disclose when or where the hinge is formed in the panel. One in the art reading the references as a whole would appreciate that there is no criticality in the timing of forming the hinge. Therefore, one in the art would readily appreciate that it would have been within the purview of one in the

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art to form the hinge either before or after removal from the mold. Only the expected results would be achieved.

Regarding claim 10, the references do not specifically state that the subassembly of skins and core is pre-heated prior to molding. However one in the art would appreciate that the pre-assembly could be preheated to ensure better molding particularly since the molded panel can be formed into a curved shape and when forming such a shape preheating the core as well as the skins would enable easier molding.

Regarding claim 11, Dubois discloses the skins are pre-heated to 160-200C during the forming process.(Oral translation) It would have been obvious to one of ordinary skill in the art at the time the invention was made to pre-heat the skins of the admitted prior art to 160-200 C since Dubois discloses that panels like those of the admitted prior art are made by first pre-heating the skins to 160-200 C.

Regarding claim 12, the admitted prior art discloses the thermoplastic is reinforced but not with what. Such reinforcement is conventionally fibers as shown for example by Ilzhoefer et al.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use glass fiber as the reinforcement in the thermoplastic of the admitted prior art since Ilzhoefer et al. that reinforced panels in automobiles can be formed from glass fiber reinforcement and since the use of fiber as reinforcement is well-known and conventional in the art.

Regarding claim 13, the admitted prior art is silent as to the thermoplastic used to form the panel. Both Dubois(oral translation) and Yoshinori(oral translation) disclose

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using polypropylene to form the skins and core of the honeycomb. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the panels of the admitted prior art from polypropylene since Dubois and Yoshinori both disclose that panels like those of the admitted prior art are made from polypropylene.

Regarding claim 14, the admitted prior art discloses the core is cellular but does not specifically state it is honeycomb. Dubois discloses the panel contains a honeycomb core.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the core of the admitted prior art honeycomb since Dubois discloses that panels like those of the admitted prior have honeycomb cores.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 above, and further in view of Mumper as forth in the previous office action.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 above, and further in view of Northall as forth in the previous office action.

4. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 above, and further in view of Corner(GB 2061871A)

The references cited do not disclose the incision only being 0.5 mm thick, but rather gives a single example of 4 mm. This is clearly only exemplary. The reference does not disclose how the cutting to form the hinge is performed, i.e. by forming a slit or

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by removing material. Corner discloses forming a hinge in a paper core by slitting the material.(Pg. 1, ll. 60-64) Since the material is slit, the incision is only the width of the knife blade, and since most knives have blades less than 0.5 mm thick, one in the art would appreciate that the incision of Corner would be less than 0.5 mm thick. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the incision of the admitted prior art, Dubois, Yoshinori, and optionally Ilzhoefer et al. less than 0.5 mm thick by forming an incision via slitting as shown by Corner since the Yoshinori does not disclose the specifics of the cutting of the hinge, since the width in Yoshinori is only exemplary, since Corner discloses a process like that of Yoshinori wherein the material is slit, and since slitting would be a simpler process as it would not require removal of material.

### ***Response to Arguments***

5. Applicant's arguments filed 1/28/03 have been fully considered but they are not persuasive.

Regarding applicant's argument that Yoshinori does not disclose cutting an integral hinge, an oral translation of Yoshinori indicates the hinge can be formed either by cutting or by thermal fusion. A written translation of the document has been ordered. The portion of Yoshinori applicant refers to does not indicate how the hinge is formed in the computer translation but does indicate that the core is bonded to another layer(24) and the hinge is formed by maintaining, i.e. not cutting, layer 24 and one of the face sheets of the core. In other words, it indicates the layers are all bonded together and then the hinge is formed without disturbing layer 24 and the face sheet bonded to it.

Even without a written translation, this indicates a portion of the core and one face sheet are removed, i.e. by cutting.

Regarding applicant's argument that Yoshinori does not disclose forming a narrow incision, as the incision is only 4 mm across, one in the cutting arts would consider it narrow. This is considered a relative term which does not require specific ranges.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(703)-**



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**305-1352.** The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

*BJM*

BJM

May 7, 2003

*Jeff H. Aftergut*  
JEFF H. AFTERGUT  
PRIMARY EXAMINER  
GROUP 1300